

In the claims

1. (currently amended) A method for specifically detecting chitin and not cellulose in a sample containing chitin and cellulose, comprising the steps of:

(a) contacting the sample with a first reagent comprising a chitin-binding domain (CBD) which is fused to a maltose-binding domain (MBD); and

(b) detecting specifically whether chitin and not cellulose is present in the sample by the binding of the CBD in the CBD-MBD fusion to chitin.

2. (original) A method as recited in claim 1, wherein the CBD in the reagent is conjugated to a reporter.

3. (original) A method as recited in claim 2, wherein the reporter is selected from the group consisting of a radioactive material, a fluorophore, a dye, an electron-dense compound, and an enzyme.

4. (original) A method as recited in claim 1, wherein the sample comprises a plant tissue, an agricultural product, an animal tissue, a human tissue, a contact lens, a prosthetic device, or an air filter.

5. (original) A method as recited in claim 1, wherein the sample comprises an animal body fluid, a human body fluid, a plant fluid, potable water, or a beverage.



6. (original) A method as recited in claim 1, wherein the contacting step additionally comprises contacting the sample with a second reagent comprising an antibody to CBD or an antibody to a protein fused to CBD.

7. (previously presented) A method as recited in claim 6, wherein the second reagent additionally comprises a reporter.

8. (previously presented) A method as recited in claim 2 or 7, wherein the reporter is selected from the group consisting of a radioactive material, a fluorophore, a dye, an electron-dense compound, and an enzyme.

9. (previously presented) A method according to claim 1, wherein the CBD has a carbohydrate-binding module (CBM) corresponding to CBM12.

10. (original) A method according to claim 1, wherein step (a) is preceded by bleaching the sample.

11. (original) A method according to claim 1, wherein the CBD is obtained from chitinase AI from *Bacillus circulans*.

12-13 (cancelled)



14. (currently amended) A kit, comprising an immobilized CBD reagent, instructions for use, and a soluble protein consisting of CBD fused to a maltose-binding domain and ~~CBD-carrier protein fusion molecule~~ linked to a reporter.

15. (previously presented) A kit according to claim 14, wherein the carrier protein is maltose-binding protein (MBP).

16. (original) A kit according to claim 14, wherein the reporter is a rhodamine or fluorescein dye.

17. (previously presented) A kit according to claim 14, wherein the CBD is derived from chitinase AI.

18. (withdrawn) A method for detecting chitin in a sample, comprising:

(a) obtaining an immobilized first CBD;

(b) adding the sample and allowing any chitin in the sample to bind to the immobilized CBD;

(c) adding a second CBD for binding the immobilized chitin of step (b) wherein the CBD is optionally linked to a protein carrier and a reporter molecule or to reporter molecule only and wherein the first CBD and the second CBD are obtained from the same or different chitinase; and

(d) detecting the chitin in the sample.



19. (withdrawn) A method according to claim 18, wherein the second CBD is linked to a carrier protein, wherein the carrier protein is MBP.

20. (withdrawn) A method according to claim 19, wherein step (d) further comprises detecting the chitin by means of a labeled antibody.

21. (withdrawn) A method according to claim 19, wherein the first CBD is immobilized by means of a chemical linker.

22. (withdrawn) A method according to claim 19, wherein the first CBD is immobilized on a substrate selected from: a bead, a gel, a filter, a column and a reaction vessel surface.